

C2 11. (Amended) The combination of claim 21<sup>4</sup> wherein the ignition sensor comprises a light detector.

1  
12. (Twice Amended) A method for timing a Harley Davidson type engine having a timing port through which a timing mark indicative of a position of a movable member of the engine can be seen, the method comprising:

C3  
securing a variable reluctance sensor proximate the timing port of the Harley Davidson type engine;  
sensing the presence of the timing mark of the engine with the variable reluctance sensor and providing a timing mark signal as a function thereof;

sensing an occurrence of an ignition spark and providing an ignition signal as a function thereof;

filtering ignition sparks of compression strokes from ignition sparks of compression and exhaust strokes of a selected cylinder and providing a filtered ignition signal being indicative of only the ignition sparks of compression strokes;

generating a delayed signal having a selected delay from the filtered ignition signal;

comparing the timing mark signal to the delayed signal and providing an output signal indicative of substantial simultaneous occurrence of the timing mark signal and the delayed signal; and

operating an indicator as a function of the output signal.

2

3

1

C4 1/5. (Amended) The method of claim 1/2 wherein filtering comprises comparing the ignition signal with a selected threshold.

3

1/6. (Amended) The method of claim 1/2 wherein filtering comprises:  
detecting a peak amplitude of the ignition signal; and  
forming the selected threshold as a function of the  
ignition signal from at least one previous spark.

4

C5 2/1. (Amended) A combination comprising:

a Harley Davidson type engine having a timing port and a timing mark indicative of a position of a movable member, wherein the Harley Davidson type engine provides ignition sparks for compression strokes and exhaust strokes to a selected cylinder;

an ignition timing device including:

a variable reluctance sensor secured in the timing port to provide a timing mark signal indicative of presence of the timing mark;

an ignition sensor adapted to provide an ignition signal indicative of the occurrence of an ignition spark;

a filter receiving the ignition signal and to provide a filtered ignition signal, the filter filtering ignition sparks of compression strokes from ignition sparks of compression and exhaust strokes of the selected cylinder;

a delay element receiving the filtered ignition signal and providing a delayed signal having

4

a selected delay from the filtered ignition signal;

a comparator receiving the timing mark signal and the delayed signal, the comparator providing an output signal indicative of substantial simultaneous occurrence of the timing mark signal and the delayed signal; and

an indicator receiving the output signal and operable as a function thereof.

8

<sup>1</sup>  
2<sup>6</sup>. (Amended) The combination of claim 2<sup>1</sup> wherein the filter includes a comparator, wherein the filtered ignition signal is indicative of a spark exceeding a selected threshold.

9

<sup>8</sup>  
2<sup>6</sup>. (Amended) The combination of claim 2<sup>6</sup> wherein the selected threshold is constant.

10

<sup>8</sup>  
2<sup>7</sup>. (Amended) The combination of claim 2<sup>5</sup> and further comprising a peak detector, and wherein the selected threshold is a function of at least one previous detected spark.